

CHAPTER 15 HUMAN HEREDITY

Section 15.2 Complex Inheritance of Human Traits

Study the Table

Study the information in the table. Then answer the questions.

The Smith Family

Family Member	Blood Genotype (Blood Type)	Blood Phenotype	Number of Chromosomes	Condition
Mr. Smith	IBi	B		
Mrs. Smith	IAi	A		
Amy	IAi	A	46	
Michael		AB	46	color blindness
Donna		O	46	
Sara		B	47	Down syndrome

Traits or group of traits: blood type, color blindness, Down syndrome

- The genes that code for sex-linked traits are found on the X chromosome. Because males have one X chromosome and females have two, recessive sex-linked traits are more often seen in males than in females. Which member of the Smith family trait displays a recessive sex-linked trait? _____
- Aneuploidy is the condition of having an abnormal number of chromosomes. The normal number of chromosomes in humans is 46.
 - Which member of the Smith family displays aneuploidy? _____
 - Which condition is the result of aneuploidy? _____
- Some traits are polygenic—determined by multiple genes. Some traits are multiple allelic—they are determined by a single gene, but more than two alleles are possible at that gene.
 - Which trait in the table contains multiple alleles? _____
 - What are the three alleles? _____
- Amy has blood type A. Her blood genotype is IAi .
 - Which parent did she get the allele IA from? _____
 - Which parent did she get the allele i from? _____